Building an Industry Skills Standards System for Vermont

A Final Report
from the
Technical Education Standards Design Committee

April 1999

Submitted to
The Human Resource Investment Council
The State Board of Education

Following the schedule outlined in our first report submitted to the HRIC and the Board of Education on October 23, 1998, the Committee is now submitting our final recommendations regarding the following items:

(A) The organizational structure necessary to establish, review and maintain industry skills standards for the State of Vermont, including the criteria by which industry skills standards would be evaluated and selected.

(B) The basic performance indicators which should be collected from all technical centers and comprehensive high school programs that will demonstrate that industry recognized standards are embedded in the curriculum and being used to measure individual achievement and the quality and effectiveness of programs.

(C) Existing national industry standards and assessments that could be adopted in a Vermont system.

(D) The coordination of national skills standards across secondary, post-secondary and other educational and training programs.

(E) The coordination of secondary technical education programming with post-secondary education and other workforce education and training programs.

(F) The level and allocation of resources necessary to support a coordinated system of industry skills standards for secondary, post-secondary, and other workforce education and training programs.

INTRODUCTION

The Committee on Technical Education Standards was established by the Legislature in 1998, as part of set of technical education reforms in Act 138 (See Appendix A). Members were appointed by the State Board of Education and the Human Resources Investment Council, and include a business majority, representing key business sectors, and secondary and post-secondary educators. (See page 11 for committee membership.)

The Committee was charged with proposing an organizational structure that could establish and maintain a system of Industry Skill Standards and issue industry-respected credentials to qualified individuals.

Goals of the Industry Skills Standards System:

_ Improve the knowledge and skills of all Vermonters preparing for work and the flexibility and capacity of Vermont's workforce.

_ Promote and support Vermont's economic development agenda by creating skilled workers in economic sectors where they are most needed.

_ Define the skills and knowledge that individuals need to obtain challenging employment and to perform well at work.

_ Build a strong working relationship between education and business by developing a common language based on high performance expectations.

_ Provide a focus for individual career planning by making workplace requirements clear, and by establishing a meaningful link between the classroom and work opportunities.

_ Support innovative and future-oriented programming and curriculum development by defining essential results and rewarding accomplishment.

Principles of the Industry Skills Standards System:

_ Industry Skills Standards are benchmarked to the top 30% of high performance organizations in each economic sector, thus assuring that the skills and knowledge acquired by students are of real value, now and in the future.

_ Vermont's Framework of Standards and Learning Opportunities identifies the range of knowledge and skills that are essential for all individuals, and the Framework is the foundation of Industry Skills Standards System.

_ Industry skills standards describe the major areas of responsibility for any given area of work, the skills and knowledge needed to do that work and the level of performance required to perform that work competently.

_ An Industry Skills Standards System must serve the needs of both large and small employers.

_ Individuals, businesses, and education and training organizations choose to use the system of skills standards because it improves the quality, value, and results of education and training.

_ All individuals must be able to access the system; opportunities for earning a credential should be available to all individuals including students, incumbent workers, and others in need of education and training.

_ Employers, employees, and educators must be active partners in the development, implementation, and continuous improvement of the Industry Skills Standards System.

_ Credentials are issued to recognize a variety of levels of accomplishment, from entry through advanced skill levels and supervisory roles.

_ Industry Skills Certificates are portable: within an organization from job to job, from one company to another in the same industry, from one industry to another, and from one learning environment to another.

A) <u>ORGANIZATIONAL STRUCTURE</u>

The committee's recommendation is that a skills standards system requires three components, each with distinct functions and responsibilities:

An Industry Skills Standards Coordinating Committee

2. Industry Councils

3. Technical Assistance Team

A) 1. Industry Skills Standards Coordinating Committee:
An Industry Skills Standards Coordinating Committee should be established as a sub-committee of the HRIC. Functions and responsibilities of the Committee include:

_ Formally endorsing particular sets of skills standards based on the recommendation of Industry Councils.

_ Identifying economic sectors in which standards should be developed and establishing Industry Councils for those sectors.

_ Supporting the linking of the skills standards system with, K-12 education, school-to-work transition programs, One-Stop Career Centers, Registered Apprenticeship, higher education institutions, etc.

_ Proposing the budget necessary to develop and maintain the Industry Skills Standards System to the HRIC.

_ Making periodic reports to the HRIC and the State Board of Education regarding the outcomes of the Industry Skills Standards System and the process of certification in the workplace.

_ Coordinating Vermont's relationship with the National Skills Standards Board and other national organizations interested in industry skills standards.

_ Disseminating information about the Industry Skills Standards System to employer organizations, educational institutions, and individuals.

A statewide Industry Skills Standards Coordinating Committee is not in any way involved in the governance of program providers. Its primary task is to endorse skills standards based on the recommendations of Industry Councils. Its general function is to promote and oversee an Industry Skills Standards System through the development of Industry Councils.

The Design Committee recommends that an Industry Skills Standards Coordinating Committee operate as a sub-committee of the HRIC which includes representation from business, labor, education, government, and the legislature. It also recommends that this committee include members of Industry Councils.

A) 2. Industry Councils:

Industry Councils are comprised of business representatives from specified economic sectors, and are appointed by the Coordinating Committee. Council members might be appointed from names submitted by employers or industry groups, local Workforce Investment Boards, labor organizations, and regional technical center advisory boards and committees. Industry Councils have the lead role in the development of industry skills standards and the in operation of the system. They would:

_ Analyze trends and labor market needs in particular economic sectors.

_ Gather and analyze industry skills standards and certificates developed by national organizations and used in other states.

_ Serve as Vermont's liaison to national industry skills standards organizations.

_ Oversee the development or modification of industry skills standards, if needed, in areas particularly specialized in Vermont where no appropriate national standards exist.

_ Recommend appropriate industry skills standards for adoption by the state coordinating committee.

_ Oversee the development and administration of a performance-based assessment system for their sector.

_ Award certificates to individuals for appropriate levels of achievement.

_ Promote use of skills standards throughout the industry.

_ Communicate with the Coordinating Committee regarding the outcomes and effectiveness of the system.

There are already several active Industry Councils in Vermont including construction, manufacturing, welding, automotive, and hospitality. (See Appendix B.)

A) 3. Technical Assistance Team:

A technical/administrative team will report to the Skills Standard Coordinating Committee and support the work of Industry Councils. Among its activities, this team would:

_ Conduct research and provide technical advice to the Skills Standards Coordinating Committee and Industry Councils.

_ Monitor emerging trends at the national level and disseminate information.

_ Create and maintain a repository of skills standards, assessments, and certifications.

_ Periodically revise the skills standards as industry requirements change and evolve.

_ Audit and approve assessment procedures.

_ Collect performance data and report annually to the HRIC and State Board of Education.

_ Assist program providers who wish to align their curriculum or adopt assessments for certification.

_ Align skills standards with the Vermont Framework in the secondary context (See Appendix C).

B) BASIC PERFORMANCE INDICATORS

The Technical Education Standards Design Committee has been charged with recommending the basic performance indicators which should be collected from all technical centers and comprehensive high school programs. The Committee felt however, that a wider set of indicators would be necessary for evaluating the effectiveness of a system of industry skills standards. These would include:

1. Indicators of the development of the system.
2. Indicators of the implementation and improvement of the system.
3. Indicators for provider effectiveness, including:
- regional technical centers
- postsecondary institutions
- private education and training organizations.

The effectiveness of these indicators as a tool for system management and continuous improvement depends on how much attention can be given to data collection, analysis and reporting. The Design Committee also noted that some performance indicators (for example decreased screening and training costs for new employees), may be evident internally in business organizations, but not be reported outside of the organization.

B) 1. Key indicators of system development

The following indicators can be used to determine to what extent and and at what pace an industry skills standards-based system is being developed, prior to the implementation of standards-based assessments and the awarding of certificates.

a) Standards
_ Industry Councils are formed in targeted economic sectors.
_ State standards committee has endorsed particular standards.
_ There is employer recognition of industry councils and standards.

b) Assessments

_ Number of individual assessments endorsed by Industry Councils.

_ Number of individual assessments adopted by program providers.

c) Certificates

_ Number of certificates adopted by Industry Councils.

_ Number of skill certificates endorsed by state coordinating committee.

B) 2. Key indicators of system implementation and continuous improvement

The following indicators can be be used to determine how fully a system of industry skills standards is being implemented and utilized by the different "customers" of such a system: employers and businesses, program providers and individual participants.

a) For Vermont employers and businesses

_ Number of employers using the credentials in hiring and promoting employees.

_ Number of employers using the industry skills standards in their internal training programs.

_ Training cost reduction or resource reallocation as better prepared employees become available.

b) For program providers

_ Number of education and training providers using industry skills standards in programs.

_ Number of education and training providers using assessment strategies endorsed by Industry Councils.

_ Number of education and training providers awarding certificates to individuals who have met standards.

c) For individuals

_ Number of skills certificates earned.

_ Number of individuals entering employment in a field related to their certificate.

_ Number of individuals gaining employment, or advancement.

_ Retention and/or promotion on the job.

_ Individual readiness for the next level of education or training.

_ Reduction of length of unemployment between jobs.

B) 3. Key Indicators of program provider effectiveness

In addition to the performance indicators for the whole system of industry skills certification, there are other indicators that focus on the quality of particular programs and how well they are preparing individuals for certification:

- _ Number of program participants who complete the program
- _ Number of program completers who are assessed for a certificate
- _ Number of individuals assessed who are awarded a certificate

B) 4. Additional Indicators:

_Vermont Frame.....

Industry skills standards must be aligned with Vermont's Framework of Standards and Learning Opportunities. Vermonters understand that technical and vocational education programs must provide individuals with strong academic skills in math, science, communication, and other skills identified in the Content Standards, as well as the higher order thinking skills identified in the Vital Results of the Framework. Because industry skills standards require these broad skills in addition to employability and industry specific skills, all tech-center and comprehensive high school programs should provide evidence of how students are meeting the standards of the Vermont Framework.

_ Equity and Access

The Industry Skills Standards System should improve equity for women, minorities, individuals with disabilities and non-traditionial workers, because with such a system in place, individuals' potential will be measured by their proven competence, rather than by more subjective factors. To insure that the standards system supports equity for disadvantaged groups, the Design Committee recommends that the performance indicators include sub-categories for specific groups that measure the system's effectiveness and can highlight best practices.

Note: The Design Committee does not see a direct connection between industry skills standards and the issue of access to workforce preparation programs, although an Industry Skills Standards System should improve program quality and outcomes and thus may increase participation by all individuals.

C) <u>EXISTING NATIONAL INDUSTRY SKILL STANDARDS</u>:

There is no shortage of existing national standards as a result of several initiatives, including the work of the National Skills Standards Board. (Visit the NSSB on-line at http://www.nssb.org/. And see Appendix D for a representative sample of skill standards categories)

Given the current wide range of standards, it is essential that the proposed Industry Councils have the organizational function of selecting and recommending those standards which have the greatest relevance and applicability for the future Vermont workforce. Once Industry Councils have made their recommendations, it is the function of the Coordinating Committee to officially endorse those industry standards that can serve as the basis for all programs at either the high-school or post-high-school levels.

D) COORDINATION OF SKILLS STANDARDS IN VERMONT:

Each of the components of the proposed system have a role to play in the coordination of industry skills standards across providers in Vermont. The role of the Skills Standards Coordinating Committee is overall coordination, and oversight of the implementation of the system to meet the needs of all industries, education and training organizations, and individuals. The role of the Industry Councils is to develop and recommend to the Industry Standards Coordinating Committee standards which are aligned with national standards and relevant to the labor market needs of various economic sectors in Vermont. The role of the Technical Assistance Team in coordination is to assist providers to incorporate industry skill standards into their programs, to assist in the development of linkages between program providers based on the skills standards, and to implement the assessment and certification system.

A skills standards system will work most effectively in Vermont if secondary and postsecondary providers have access to, and utilize, the system of skills standards. Industry skills standards can establish a common language for connecting programs on all levels. Such a system will also identify gaps in Vermont's system of workforce preparation.

At the secondary level, the State Board of Education will determine how funding and program approval should be tied to alignment with industry skills standards and achievement of these standards by individuals. At the post-secondary level, there is no equivalent single entity that can address program

alignment with industry skills standards. However, the Design Committee recommends that the HRIC monitor the degree to which post-secondary (post-high school), and other workforce education and training programs have aligned curricula with the industry skill standards, and the extent to which those who complete these programs are awarded industry skills credentials.

E) COORDINATION OF SECONDARY AND POST-SECONDARY TECHNICAL EDUCATION

A system of industry skills standards can be utilized by a variety of different program providers-high-school, post-high-school, public or private, school-based or industry-based. All program providers who choose to participate in the system would:

_ Review and revise curriculum as appropriate to align with the skills standards.

_ Provide education and training that helps individuals meet the skills standards.

_ Prepare individuals for certification by the appropriate Industry Council.

A skills standards system can make a significant contribution to the coordination of programs by providing a comprehensive framework of industry standards and assessments that encompass secondary and post-secondary (post-high school) program providers. It can provide the basis for clear identification of the level of skill acquired at the secondary level and the need for additional postsecondary education and training.

The Design Committee believes that some skill levels and certifications will be difficult to achieve at the secondary level with the resources and amount of time currently under the public education entitlement. How individuals can complete the education and training required for certification becomes an issue, namely to what extent there should be increased state support for post-high school programs where additional time, perhaps a 13th or 14th year, is necessary for achieving industry skills certification.

Currently the State Board of Education determines the framework of vocational and technical education at the secondary level. The Design Committee recommends that the legislature explore the development of a publicly supported, statewide, post-secondary technical and vocational education system of the kind that exists in many states throughout the country. The current development of three Technical Education Pilot projects at the

regional technical centers includes the opportunity to examine new governance models for tech centers that include secondary and post-secondary collaboration in the delivery of comprehensive programming. These pilots will provide valuable models for development of such a statewide system.

F. LEVEL AND ALLOCATION OF RESOURCES NECESSARY TO SUPPORT A COORDINATED SYSTEM OF INDUSTRY SKILLS STANDARDS

The cost of supporting a skills standards system includes technical assistance for Industry Councils and the Skills Standards Coordinating Committee in the development of industry standards, assistance to institutions who wish to provide Industry Skills Certificates to their students, development, implementation and maintenance of the assessment and credentialling system, and measuring and reporting on the performance of the system.

Phase I - System Start-Up:

At present there are five Industry Councils in place in Vermont that have been formed on a voluntary basis (See Appendix B). These Councils need assistance in the development and implementation of skills standards and assessment procedures. During this early stage of development the need for staff support for each Industry Council will be relatively high. The Committee estimates that this initial phase will require three full-time staff. Possible sources of revenue for the system during this initial phase of development include contributions from participating business and industry organizations, and state funds. Operating expenses to support the Technical Assistance Team should be added to the HRIC budget.

Phase II - Long Term Operation:

Over time, as efficient procedures are developed, staff expertise increases, and more Industry Councils are formed, costs will be spread over a larger number of Councils, and the average cost of supporting the work of each Industry Council will be less than during Phase I. In addition, as use of the system by individuals, businesses and education and training organizations increases additional revenue streams can be developed to support the necessary work, including fees charged for assessments, and contributions from education and training organizations that wish to participate in the system. The resources necessary to support each Industry Council, an annual operating budget for the system, and identification of revenues should be developed by the Industry Skills Standards Coordinating Committee and recommended to the legislature by the HRIC.

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The Committee would like to thank the following Individuals for their assistance and guidance.

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The Committee would also like to thank Betsy Brown-Ruzzi of the National Center for Education and the Economy for her significant contribution to this report.**Appendix A**

Charge to the Committee on Technical Education Standards
Excerpt from ACT 138:

ACT NO. 138. AN ACT RELATING TO VERMONT'S TECHNICAL EDUCATION SYSTEM.

(H.636)

It is hereby enacted by the General Assembly of the State of Vermont:

Sec. 1. FINDINGS; STATEMENT OF PURPOSE

(a) The general assembly finds that:

(2) There are multiple state-level decision-making boards that deal with issues included in a workforce education system.

(5) Consistent technical education program offerings across the state are not now available.

(6) Individual and program performance outcome data and evaluation are limited.

(10) Social and cultural issues with individuals, parents, and educators discourage participation in technical education programs.

(11) Technical centers need to encourage female and male enrollment in course work leading to high wage career opportunities.

(b) It is therefore the purpose of this act to establish a technical education system in Vermont which:

(1) promotes high academic and technical performance standards for all technical education individuals;

(5) promotes the development of programs that foster economic development throughout the state.

Sec. 15. COMMITTEE ON TECHNICAL EDUCATION STANDARDS

(a) The Human Resources Investment Council and the State Board of Education shall jointly appoint nine people to a subcommittee on technical education standards. The subcommittee will issue reports and make recommendations to the State Board of Education and the human resources investment council pursuant to this section. Members shall be experts on technical education standards and assessment or have other training or expertise which would be helpful to the subcommittee in carrying out its mission, and shall represent business, education providers and organizations which provide workforce education.

Charge to the Committee as Revised and Clarified:

(1) No later than January 1, 1999: (was October 1, 1998)

The sub-committee will submit preliminary recommendations regarding the following:

(A) Identify the organizational structure necessary to establish, review and maintain industry skills standards for the State of Vermont, including the criteria by which s skill standards would be evaluated and selected. (Combines C &D of original charge)

(B) Recommend the basic performance indicators which should be collected from all technical centers and comprehensive high school programs that will demonstrate that industry recognized standards are embedded in the curriculum and being used to measure individual achievement and the quality and effectiveness of programs. (Was A in original charge.)
Note: The committee is still questioning whether the issues of access, equity and responsiveness of adult programming to regional economic needs properly fall within the scope of this committee's charge or expertise.

(C) Identify existing national industry skills standards and assessments that could be adopted in a Vermont system. (Was B in original charge.)

(2) No later than April 1, 1999: (was Jan 1, 1999)
The sub-committee will submit final recommendations regarding the above and preliminary recommendations regarding the following additional issues:

(A) The coordination of national skills standards across secondary,
post-secondary and adult curricula and programs.

(B) The coordination of secondary technical education programming with post
secondary education and other workforce education and training programs
(e.g., apprenticeships).

(C) The level and allocation of resources necessary to support a coordinated
system of industry skills standards for secondary, post-secondary, and other
workforce education and training programs.

Note: The subcommittee does not believe it can recommend or should be
charged with recommending the level and allocation of resources necessary
to support secondary and adult technical education.